

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES
IN-OFFICE REVIEW/BENEFICIAL USE FIELD REPORT

A. GENERAL INFORMATIONExam Date: 01/25/20241. Does this qualify for an in-office field exam (IDAPA 37.03.02.035.01.r)? X Y ___ N

- a. X Irrigation of 5 acres or less
 b. ___ Storage of up to 14.6 AF for stockwater purposes only
 c. ___ Any use other than irrigation or storage, if the combined diversion rate is 0.24 cfs or less
 d. ___ Other < >

2. Current Owner: **PAUL A. COHEN**

Owner of Record Correct? ___ N

Address of Record Correct? ___ N

If No Explain:

3. Beneficial Use Fees have been paid: X Y ___ N Receipt No: N044112

4. Source: Tributary:

SAND CREEK**PACK RIVER**Method of Determination: ArcMap GIS, Aerial Imagery, Taxlot Data.Change in Source: ___ Y X N**B. OVERLAP REVIEW**1. Other water rights with the same place of use: X No Overlap

Water Right No.	Source	Purpose of Use	Basis
NONE	NA	NA	NA

Comments: There are no rights overlapping the permit place of use (POU).2. Other water rights with the same point of diversion: X NO Overlap

Water Right No.	Source	Purpose of Use	Basis
NONE	NA	NA	NA

Comments: There are no rights sharing the permit point of diversion (POD).**C. DIVERSION AND DELIVERY SYSTEM**

1. Location of Point(s) of Diversion:

Source	Govt. Lot	¼	¼	¼	Sec.	Twp.	Rge.		County
Sand Creek			SW	NW	27	59N	01W	B.M.	BONNER

Method of Determination: GIS and Taxlot data.Change in POD? ___ Y X N Amendment Required? ___ Y X N

2. Place of Use: IRRIGATION

TWP	RGE	Sec	NE				NW				SW				SE				Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
59N	01W	27							0.5										0.5
		Lot #																	
Total Acres =																			0.5

Method of Determination: Bonner County Maps, GIS, and Taxlot Data.Change in POU? ___ Y X N Amendment Required? ___ Y X N

☐ Delivery System Diagram Attached (required). Indicate all major components and distances between components.

Indicate weir size/pipe as applicable:

☒ Aerial Photo Attached (required for irrigation of 10+ acres).

☐ Photo of Diversion and System Attached

3. Diversion Id No.*	Motor Make	HP	Pump Model	Pump Make	Pump Serial No. or Discharge Size
Screened inlet in Cr	Unknown	1/2	Unknown	Unknown.	Unknown

*Code to correspond with No. on map and aerial photo

D. FLOW MEASUREMENTS

1. Measurement Equipment	Type	Make	Model No.	Serial No.	Size	Calib. Date
NONE	NA	NA	NA	NA	NA	NA

2. Measurement Comments: The permit holder provided that the pump used is 1/2 Hp. A maximum head of less than 20ft was estimated to the licensed POU using the DRG map.

E. FLOW CALCULATIONS

☐ Additional Computation Sheets Attached

Measured Method:

A theoretical calculation and Administrative Memo #17 were used to determine a reasonable rate of diversion.

$$Q = (0.5\text{Hp})(8.8)(0.80 \text{ efficiency}) / (20 \text{ ft lift}) + (2.31) * (40 \text{ psi}) = 0.03\text{cfs}$$

Theoretical Calculation= 0.03cfs

Permit allowed = 0.03cfs

Recommendation= 0.02cfs

Comments:

The permit holder stated that the irrigated area within the parcel is 1 acre on the proof of beneficial use. Irrigated areas of approximately 0.5-acre total were confirmed using the Department GIS, Google Earth, and Bonner County GIS imagery. The system was described as a 1/2 Hp pump with fish screened intake used to fill a couple 55-gallon barrels, which are trucked around the parcel and applied via gravity fed hand watering throughout the POU.

Approximately 0.03cfs is possible with the 1/2 Hp pump. According to Administrative memo #17 up to 0.03cfs per acre is standard for the irrigation of up to 5 acres. I am recommending a diversion rate of 0.02cfs for the license.

F. VOLUME CALCULATIONS

1. Volume Calculations for Irrigation:

$$V_{\text{I.R.}} = (\text{Acres Irrigated}) \times (\text{Irrigation Requirement}) = 0.5 \text{ acre} \times 3.0 \text{ AF} = 1.5 \text{ AF}$$

$$V_{\text{D.R.}} = [\text{Diversion Rate (cfs)}] \times (\text{Days in Irrigation season}) \times 1.9835 = 0.02\text{cfs} \times 214 \text{ days} \times 1.9835 = 8.5 \text{ AF}$$

$$V = \text{Smaller of } V_{\text{I.R.}} \text{ and } V_{\text{D.R.}} = 1.5 \text{ AF}$$

Comments:

This permit was issued for irrigation use from a natural stream/river source. According to the IDAPA Beneficial Use Examination Rules 37.03.02.35. 01j.viii a diversion volume is not required for irrigation if water is diverted from a natural flowing stream/river or spring.

G. PURPOSE OF USE

Irrigation ☒ Y ☐ N # Stock ☐ NA Domestic # of Homes ☐ NA

Change in Purpose of Use? ☐ Y ☒ N

Method of Determination: Bonner County Maps, GIS, and Taxlot Data

H. NARRATIVE/REMARKS/COMMENTS

This permit for the irrigation of 1 acre qualifies for an in-office examination for license. The permit holder submitted the Proof of Beneficial Use, received by IDWR on October 10, 2023, stating in section #3 that the beneficial use was developed for 1 acre of irrigation. In section 5 they stated that they were diverting water from the creek for the irrigation of about 40 trees. I was only able to confirm approximately 0.5 acres irrigation was developed using aerial imagery (see figures 1 & 2). I called the permit holder on January 25th, 2024, requesting additional information regarding the irrigated area. He confirmed in our conversation that only 40 trees and the area surrounding them is being watered. The permit holder explained that the irrigation was done by filling 55-gallon drums using a small black ½ Hp pump with a screened intake diverting from the creek then hauling the drums over to the trees where he hand watered the area surrounding the trees. He also identified the location of 6 trees that are along the north property line closer to the house. The permit holder asked if he was doing anything wrong and I explained that as long as the conditions of the license and permit were followed, he should be ok. I explained how he can look up the streamflow for the Pack River using the USGS gauge look up online to make sure he is within compliance.

After reviewing the permit holder's response to the information request an area of approximately 0.5 acres are confirmed for irrigation. A theoretical calculation confirmed that the pump can provide the 0.03cfs rate on the permit. However, as the place of use is approximately 1/2 acre in area I am recommending the license be issued with a rate of 0.02cfs (as per Administrative Memos #17 and 6). As the diversion is from streamflow the volume was not reported on the license (IDAPA Rules 37.03.02.35. 01j.viii). However, since the irrigated area is less than 1 acre condition X31 will carry the annual volume of 1.5 AF, as per the headgate calculation.

I am recommending the license be issued with a rate of 0.02cfs and conditions 004, 227, X15, X16, X60, X59 and X31. Condition R66 was replaced with condition X31 at licensing, as the irrigated area is less than 1 acre. All other conditions were carried on to the license as per current guidance.

Have conditions of permit approval been met? ☒ Yes ☐ No

I. RECOMMENDATIONS

1. Recommended Amounts:

<u>BENEFICIAL USE</u>	<u>PERIOD OF USE</u>	<u>DIVERSION RATE</u>	<u>ANNUAL VOLUME</u>
IRRIGATION	04/01 TO 10/31	0.02CFS	
<u>Totals:</u>		0.02CFS	

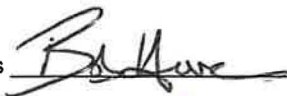
2. Recommended Amendments:

☐ Change P.D. as reflected above ☐ Add P.D. as reflected above ☒ None

☐ Change P.U. as reflected above ☐ Add P.U. as reflected above ☒ None

Other: < >

J. AUTHENTICATION- Bob Howe- Water Resource Agent

Field Examiner's  Date 3/27/24

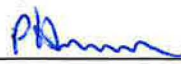
Reviewer  Date 3/28/24



Figure 1- Bonner County GIS image of POU. Outlined Areas surround about 35 trees to the east of the house, and 6 more trees to the north of the house.



Figure 2- GIS 2021- Image of POU. Outline in light blue. Light blue point is the point of diversion. Red vertical shaded area to the west is a neighboring irrigation right, and the blue diagonal shaded area to the east is an adjudication claim POU.